

CLAIMS

1. An elevator system comprising:

an elevator car;

5 a counterweight;

a rope connecting said elevator car and said counterweight; and

a drag element associated with at least one of said car and said counterweight, a control controlling the amount of drag between said car and said counterweight through said drag element to control movement of said car and said 10 counterweight under at least some conditions.

2. An elevator system as set forth in Claim 1, wherein said drag element includes a magnetizable member which is guided along a guide rail for said one of said car and said counterweight.

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3. An elevator system as set forth in Claim 1, wherein a drag element is associated with each of said car and said counterweight.

4. An elevator system as set forth in Claim 3, wherein said control 20 controls said drag elements based upon the vertical position of said car and said counterweight.

5. An elevator system as set forth in Claim 4, wherein said control 25 controls said drag elements to ensure that the vertically lower of said car and said counterweight is provided with a lower drag than the vertically higher of said car and counterweight.

6. An elevator system as set forth in Claim 5, wherein said counterweight and said car are linked together in a 2:1 arrangement, and a sheave is associated with 30 said counterweight and said car, and said drag elements are associated with said sheave on at least one of said counterweight and said car.

7. An elevator system as set forth in Claim 6, wherein said drag elements are braking/drive motors.

8. An elevator system as set forth in Claim 1, wherein a control senses for 5 a potential “jump” situation as one of said counterweight and car reach an end of travel position, and said drag element being actuated should a jump condition be identified.

9. An elevator system as set forth in Claim 1, wherein said drag element 10 is utilized to hold said car at a floor.

10. A method of controlling the travel of an elevator car comprising the steps of:

15 (1) providing an elevator car linked to a counterweight through a rope;

(2) providing a drag element associated with at least one of said car and said counterweight, and said drag element being capable of providing a variable drag under the control of a control element; and

20 (3) monitoring the vertical position of at least one of said car and said counterweight, and controlling the variable drag of said drag elements such that the vertically lower of said counterweight and said car has a higher drag resistance.

11. The method of Claim 10, wherein step (2) includes providing a drag element to each of said car and said counterweight.